

**REMARKS**

Applicant thanks the Examiner for acknowledging Applicant's claim to foreign priority under 35 U.S.C. § 119(a)-(d), and for confirming that the certified copy of the priority document has been received at the Patent Office.

**Information Disclosure Statement:**

Applicant thanks the Examiner for initialing and returning Form PTO/SB/08 A & B filed on March 25, 2004, thus indicating that all of the references listed thereon have been considered.

**Claim Rejections:**

Claims 1-5 are all of the claims pending in the present application, and currently all of the claims stand rejected.

***35 U.S.C. § 103(a) Rejection - Claims 1, 2 and 5:***

Claims 1, 2 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,431,193 to Nesbitt. In view of the following discussion, Applicant respectfully traverses the above rejection.

First, unlike the claimed invention, in Nesbitt both of the inner layer (14) and the cover (16) are ionomer resins, such as type 1605 Surlyn (by E.I. du Pont). *See* Nesbitt, col. 2, lines 33-46. However, in the claimed invention, the intermediate layer is made up of at least one ionomer resin, whereas the cover is made up of at least one of a thermoplastic or thermosetting urethane resin. Such a material for the cover is neither taught nor suggested by Nesbitt.

Second, Nesbitt is also silent with regard to the hardnesses of the cover and intermediate layers. There is no disclosure, teaching or suggestion of the claimed hardness range for either

the cover or the intermediate layer. Further, there is no disclosure of the claimed hardness relationship between the cover and the intermediate layer.

Third, Nesbitt fails to teach or suggest the claimed dimple volume relationship, as set forth in the claims. Further, contrary to the Examiner's assertions regarding Inoue and the rejection of claim 3, Applicant submits that Inoue fails to cure the deficient teachings of Nesbitt with respect to, at least, this claim limitation. Specifically, in Inoue, the dimple space means the portion surrounded by a dimple (1) and a plane (9), which is different from the definition of dimple space in this limitation of the claim. *See* Inoue, Figure 2 and col. 4, lines 16-22. Therefore, even if these references were combined as suggested by the Examiner (in rejecting original claim 3), Applicant submits that the resultant combination would fail to teach or suggest each and every claim feature.

Finally, with regard to the last limitation of claim 1, Nesbitt does not satisfy the claim limitation of having a specific gravity of at least  $1.128\text{g/cm}^3$ . Specifically, the Examiner stated (in the February 10, 2005 Office Action, page 2) that the golf ball of Nesbitt has a diameter of 1.68 inches ( $V = 40.6\text{ cm}^3$ ) and a weight of 1.62 ounces (45.9 g), and thus the density equals  $1.13\text{ g/cm}^3$ .

However, Applicant submits that the Examiner's understanding and analysis is in error because the dimple volumes, on the surface of the ball, were not considered in the calculation of the entire ball volume.

In Table 1 of the present specification, Comparative Examples 1 & 2 are corresponding to the general commercial balls (such as Nesbitt) which are injection molded by the mold having

the same dimple pattern (Fig. 7) as Example 1. In these cases, the ball diameter is 42.7 mm, which is +0.03 mm larger than the lower limit of Golf Rules (USGA). The rationale for having the ball diameter larger than the USGA limit is that it is preferable to use the mold having diameter as small as possible in view of air resistance, but remain within the standard of Golf Rules, and it is currently possible to make the mold with a cavity to obtain high accuracy, with advanced technology.

However, the ball weight of Comparative Examples 1 & 2 are 45.2 g and 45.3 g, respectively. These values are lighter than the upper limit of USGA rules (i.e. 45.93 g). (CE1 is -0.73 g and CE2 is -0.63 g less than the USGA limit). Both of these balls are much lighter than necessary to ensure that the balls satisfy the USGA standards when changes to the weight are made due to differences of the kinds of material and the amount of the ingredients which may be experienced during manufacture. Stated differently, in the prior art, it was common to make balls considerably lighter than the USGA limit to ensure that if material changes were made during production, the changes would not push the balls over the USGA limit. Thus, having close tolerance to the upper limit was not desirable.

In Example 1, of the present specification, which is molded by the same mold (Fig. 7) as Comparative Examples 1 & 2, the ball weight is 45.7g (+0.5 g difference with CE1) and the ball specific gravity is 1.136 g/cm<sup>3</sup> (+0.014 difference with CE1). Thus, prior art balls, such as Nesbitt and Comparative Examples 1 and 2 have a lower Specific Gravity than the ball of the present invention.

The present invention is based on the view that inertia of the ball is to be as large as possible, while keeping the weight and diameter within the standard of Golf Rules, so that flight performance can be improved, as shown in Table 3, of the present application. Thus, there is a difference of technical views between Example 1 (corresponding to the present invention) and Comparative Examples 1 & 2.)

Conversely, if one were to ignore the dimples space (i.e. dimple volume) and its effect on the Specific Gravity, as did the Examiner in the Examiner's analysis, the specific gravity of the Example 1 is 1.121 (45.7g/40.74 cm<sup>3</sup>) and the specific gravity of the other Examples 2 & 3 is 1.124 (45.8g/40.74 cm<sup>3</sup>), which are below the lower limit of "1.128," as set forth in the claim.<sup>1</sup> Thus, the Examiner's lack of consideration of the dimples renders the Examiner's comments about the teaching of Nesbitt inaccurate, as the dimples would affect the calculation of the specific gravity. Moreover, the Examiner's reliance on the teachings of Nesbitt is not accurate for those reasons set forth above.

In view of the foregoing, Applicant respectfully submits that one of ordinary skill in the art would not have been motivated to combine the above references as suggested by the Examiner, and even if one combined the references as suggested the resultant combination would fail to disclose, teach or suggest each and every feature of the claimed invention. Therefore, Applicant submits that the Examiner has failed to establish a *prima facie* case of obviousness with respect to the claimed invention, as required under 35 U.S.C. § 103(a). Accordingly,

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<sup>1</sup> 40.74 cm<sup>3</sup> is calculated by the equation  $V = \frac{4}{3}\pi r^3$  :  $r = 4.27$  cm/2

Applicant hereby requests the Examiner reconsider and withdraw the above 35 U.S.C. § 103(a) rejection of the claims.

***35 U.S.C. § 103(a) Rejection - Claims 3 and 4:***

Claims 3 and 4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of U.S. Patent No. 6,346,053 to Inoue. In view of the following discussion, Applicant respectfully traverses the above rejection.

With regard to claim 3, this claim has been canceled and its subject matter incorporated into claim 1. *See* discussion, *supra*. Applicant submits that, contrary to the Examiner's assertions, this limitation is not disclosed by Inoue, as in Inoue the dimple space means the portion surrounded by a dimple (1) and a plane (9), which is different from the definition of dimple space in this limitation of the claim. *See* Inoue, Figure 2 and col. 4, lines 16-22.

With regard to claim 4, the Examiner's argument lacks merit. Essentially, the Examiner is arguing that a golf ball made according to Nesbitt having the dimple volume as shown in Inoue would "inherently" have the flight characteristics set forth in claim 4, or that obtaining these flight characteristics would have been obvious. Applicant disagrees, and submits that the claimed characteristics are neither inherent or obvious. If the Examiner continues to reject this claim on this basis, Applicant hereby requests the Examiner provide further evidence of either inherency or obvious of the claimed features.

**Conclusion:**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

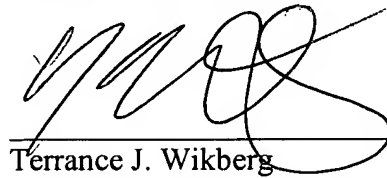
AMENDMENT UNDER 37 C.F.R. §1.111  
Application Number 10/808,452

Our Ref: Q80671  
Art Unit: 3711

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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